

Chapter 1



Robert Pos/USFWS

Horseshoe crab

Purpose of and Need For Action

Introduction

Eastern Neck National Wildlife Refuge (refuge, NWR) is a 2,286-acre island in Kent County, Maryland. Established in 1962, its purposes are to provide long-term protection for unique wetlands, threatened and endangered species and migratory birds of conservation concern, and to sustain regionally significant concentrations of wildlife. Forty percent of the refuge consists of brackish tidal¹ marsh and tidal ponds. The remaining 60 percent includes upland forest, croplands managed for wildlife, grasslands, shrub/brush lands, freshwater ponds and moist soil units. Since 2005, the refuge has been managed as part of the Chesapeake Marshlands National Wildlife Refuge Complex (CM Refuge Complex) which includes the Blackwater Refuge, with its Barren Island, Watts Island, Bishops Head, Spring Island and Garrett Island divisions, and Martin, Susquehanna, and Eastern Neck national wildlife refuges (map 1.1).

This Comprehensive Conservation Plan (CCP) for the refuge was prepared pursuant to the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd–668ee), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Refuge Improvement Act) (Public Law 105-57; 111 Stat. 1253). An environmental assessment (EA), required by the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et seq.; 83 Stat. 852), was prepared concurrent with the draft CCP. The decision to adopt this plan and its “Finding of No Significant Impact” are included as appendix I.

This document presents the combination of management goals, objectives and strategies that will guide management decisions and actions on the refuge over the next 15 years. It also helps the State of Maryland natural resource agencies, our conservation partners, local communities, and the public understand our priorities and work with us to achieve common goals.

This CCP has five chapters and nine appendixes. Chapter 1 explains the purpose of and need for preparing a CCP, and sets the stage for four subsequent chapters and the appendixes. Chapter 1 also:

- defines the refuge’s regional context and planning analysis area,
- presents the mission, policies and mandates affecting the development of the plan,
- identifies other conservation plans we used as references; and,
- clarifies the vision and goals that drive refuge management.

Chapter 2, “The Comprehensive Conservation Planning Process,” describes the planning process we followed, including public and partner involvement, in the course of developing this final plan.

Chapter 3, “Refuge and Resource Descriptions,” describes the refuge’s regional and local setting, physical attributes, habitats, species and other natural resources, and human-created environment of roads, trails, croplands, impoundments, and buildings.

¹ The state of Maryland has jurisdiction for activities in tidal waters below the mean high tide. In this document, when we refer to Service ownership, or describe refuge management actions in tidal waters, we generally mean those areas above mean high tide.

Map 1.1. Eastern Neck Refuge Location in the Chesapeake Marshlands Refuge Complex



Chapter 4, “Management Direction and Implementation,” presents the general refuge management actions, and the goals, objectives and strategies that will guide decision-making and land management. It also outlines our staffing and funding needs to accomplish the management direction.

Chapter 5, “Consultation and Coordination with Others,” summarizes how we involved the public and our partners in the planning process. Their involvement is vital for the future management of this refuge and for helping us to evaluate the plan’s effectiveness.

Nine appendixes, a Glossary and Bibliography provide additional supporting documentation and references. The nine appendixes are:

- Appendix A: Species of Conservation Concern at Eastern Neck Refuge
- Appendix B: Findings of Appropriateness and Compatibility Determinations
- Appendix C: Refuge Operations Needs System (RONS) and Service Asset Maintenance Management System (SAMMS)
- Appendix D: Refuge Staffing Chart
- Appendix E: Fire Management Program Guidance
- Appendix F: Intra-Service Endangered Species Act (Section 7) Compliance
- Appendix G: National Historic Preservation Act Compliance
- Appendix H: Summary and Response to Public Comments
- Appendix I: Finding of No Significant Impact (FONSI)

The Purpose of and Need for this CCP

The *purpose* of this CCP is to provide strategic management direction to meet the goals detailed in the section below titled “Refuge Goals.” This CCP also best achieves the refuge purpose and vision; contributes to the missions of the Service and National Wildlife Refuge System (Refuge System); adheres to Service policies and other mandates, addresses significant issues; and, incorporates sound principles of fish and wildlife science. The 1997 Refuge Improvement Act requires us to prepare a CCP for every national wildlife refuge to help fulfill the mission of the Refuge System.

CCPs support that mission by

- stating clearly the desired future conditions for refuge habitat, wildlife, visitor services, staffing, and facilities;
- explaining clearly to state agencies, refuge neighbors, visitors, and partners the reasons for our management actions;
- ensuring that our management of the refuge conforms to the policies and goals of the Refuge System and is consistent with legal mandates;
- ensuring that present and future public uses are compatible with the purposes of the refuge;
- providing long-term continuity and direction in refuge management; and,

- justifying budget requests for staffing, operating and maintenance funds.

There are several reasons we identified a *need* to develop a CCP for this refuge. This refuge lacked a master plan to accomplish the actions above in a landscape that has changed considerably since the refuge was established. The economy and land ownership patterns in the region have changed, pressures for public access have continued to grow, and new ecosystem and species conservation plans bearing directly on refuge management have been developed.

Second, we needed to identify and prioritize certain facility improvements that include rehabilitating the historic structure that serves as our refuge headquarters and visitor contact facility, as well as evaluate the need for roads, trails, and parking improvements.

Third, we have developed strong partnerships vital for our continued success, and we must convey our vision for the refuge to those partners and the public.

Finally, we need a CCP to guide us in conserving Federal trust species in the Eastern Neck area of the Chesapeake Bay (Bay) that is also consistent with the vision, goals, and objectives of the CM Refuge Complex CCP (USFWS 2006a).

All of those reasons clearly underscore the need for the strategic direction a CCP provides. Its effectiveness will depend on involvement by the natural resource agencies of the State of Maryland, affected communities, individuals and organizations, and our conservation partners.

Eastern Neck Refuge Management Profile

Refuge Establishing Authority and Purpose

Eastern Neck Refuge was established by executive order on December 27, 1962, under the Migratory Bird Conservation Act (16 U.S.C. 715 d) with an official purpose “for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” Acquisition of the entire island, except for a one-tenth acre parcel owned by Kent County at Bogles Wharf, was completed in 1967. By virtue of its strategic location at the confluence of the Chester River and the Bay, it is of particular and significant value to migrating and wintering waterfowl on Maryland’s Upper Eastern Shore.

Farming and hunting prevailed on the island prior to 1962, which was known as one of Maryland’s best hunting areas. At that time, much of the island was owned by hunting clubs (USFWS 2007a); however, one major tract was owned by the Cape Chester Development Corporation which had sub-divided that tract into many small residential lots. Local and regional interest in protecting the island as a refuge increased as plans to create a subdivision further developed. Service acquisition spared Eastern Neck Island the impacts of further development. Only one speculation home was built prior to Service acquisition and that home became the original refuge headquarters.

Today, the refuge provides habitat for more than 240 bird species. Bald eagles are year round residents. The refuge also hosts a large variety of migrating waterfowl that congregate in the thousands, and provides staging and wintering habitat for tundra swans, a population of global importance. Although they are a rare sight on the refuge today, in the past, the refuge has supported a population of the Federal-listed endangered Delmarva fox squirrel. The refuge also serves as a highly valued natural area for wildlife-dependent recreational uses with

an estimated 55,000 visitors annually. Refuge lands are also used to showcase and demonstrate projects related to landscaping with native plant species, best management farming and forestry practices, and use of wind and solar alternative energy sources.

Refuge Administration

Eastern Neck Refuge is administered as part of the CM Refuge Complex, with headquarters in Cambridge, Maryland on Blackwater Refuge. Administrative offices, a visitor contact facility, and a Friends of Eastern Neck gift shop are located in the historic hunting lodge on the refuge. This CCP will provide strategic direction for refuge planning and management. Development of step-down plans, as detailed in chapter 4, will serve to further refine refuge planning and implementation. Map 1.2 depicts the current refuge and its features. Refer to Chapter 4, Maps 4.1 and 4.2, for depictions of refuge features after full implementation of this CCP.

Refuge Vision

Very early in the planning process, our team developed this vision statement to provide a guiding philosophy and sense of purpose in the CCP.

Eastern Neck National Wildlife Refuge will sustain diverse and healthy aquatic, tidal marsh, and uplands habitats to support robust populations of Federal trust species and remain an essential link in the network of conserved lands in the Chesapeake Bay. Our successes will be supported by the strong partnerships we develop with other Federal agencies, State agencies, conservation organizations, land managers, and neighboring communities. Working with those partners will provide the opportunity to showcase and demonstrate a science-based, adaptive management approach, with emphasis on the protection and restoration of shoreline and tidal marsh.

We will continue to reward all who visit with an opportunity to immerse themselves in the natural sights and sounds of the Chesapeake Bay. The thrill of observing more than 100,000 migrating and wintering waterfowl moving in and out of the refuge each year, including the rare tundra swan, is an experience that forms a lasting impression about the wonders of nature. Visitors will also be delighted by the refuge's healthy populations of bald eagles and ospreys as they dive for fish and attend to their young. They will also enjoy the opportunity to observe the phenomenon of over 100 species of birds migrating through each fall. We will enhance these and other refuge experiences by providing exceptional interpretive and visitor programs about the Chesapeake Bay and its rich diversity of natural and cultural resources.

We hope residents of neighboring communities on the Delmarva Peninsula will value the refuge for enhancing their quality of life. Within the National Wildlife Refuge System, the refuge will be treasured for conserving the Chesapeake Bay's Federal trust resources and providing inspirational outdoor experiences for present and future generations of Americans."

Refuge Goals

We developed the following goals after considering the refuge's purposes, the missions of the Service and the Refuge System, public and partner input, and the mandates, plans, and conservation initiatives we describe below. These goals are intentionally broad, descriptive statements of purpose. They highlight elements of our vision statement for the refuge that we emphasize in management objectives and strategies. Goal 1 takes precedence; but otherwise, we do not present them in any particular order. Chapter 4 offers a rationale for each goal and its accompanying objectives.



GOAL 1:

Protect and enhance Service trust resources, and species and habitats of special concern in the Chesapeake Bay region by:

- Maintaining and restoring the integrity of the refuge shoreline and nearshore environments to sustain Service trust resources and diverse natural communities;
- Managing refuge habitats, as part of a regional partnership, to sustain wintering populations of migratory waterfowl in the lower Chester River Basin and contribute to the North American Waterfowl Management Plan population goals for the Chester River and Kent County Bayshore Focus Area;
- Managing for a variety of upland refuge habitats to continue to support the rich diversity of songbirds, raptors, butterflies, and other native wildlife;
- Enhancing, through partnerships, the management, protection and monitoring of inter-jurisdictional fish and other aquatic species on the refuge and in surrounding waters; and,
- Protecting and restoring archeological and cultural resources on the refuge.

Our highest priority over the next 15 years is to protect against additional refuge shoreline erosion and loss of refuge tidal marsh. Shoreline and tidal marsh habitats are threatened by erosive forces and invasive species; nearby shallow waters and submerged aquatic vegetation (SAV) beds also face these threats and the impact of pollutants. The integrity of the refuge, and its ability to support both aquatic and terrestrial Federal trust species and habitats, depends on stemming shoreline, tidal marsh and SAV bed losses. The protection and monitoring of species that rely on these habitat areas, such as inter-jurisdictional fish, shellfish, the diamondback terrapin, horseshoe crab, and other aquatic species on the refuge, is an important part of this goal.

Other focal species for the refuge include resident bald eagles, migratory and wintering waterfowl, and a wide diversity of migratory songbirds and shorebirds. Waterfowl habitat management is part of a regional partnership to sustain wintering populations of migratory waterfowl and contribute to North American Waterfowl Management Plan population goals. The Upper Eastern Shore of the Bay has historically sustained the greatest concentrations of Atlantic Population (AP) Canada geese and other wintering waterfowl in the Atlantic Flyway. Wintering waterfowl are attracted to the Chester River Basin because of its extensive areas of brackish tidal marsh, open shallow water, and SAV beds. Eastern Neck Refuge, which is uniquely located in the lower Chester River Basin and serves as the only protected Federal land on the Upper Eastern Shore of Maryland, provides sanctuary, shelter from severe weather, and food to sustain these wintering waterfowl and other migratory birds. The rare tundra swan also winters in the shallow waters near the refuge.

Other Federal trust resources covered by this goal are the many cultural resources on refuge lands. The refuge's long history of pre-colonial and colonial uses has resulted in structures and sites eligible for the National Historic Register which require special protection under Federal laws, such as the National Historic Preservation Act.

GOAL 2:

Maintain a healthy and diverse complex of natural community types comprised of native plants and animals to pass on to future generations of Americans by:

- Protecting, enhancing, and restoring the natural diversity, integrity and health of community types and associated native plants and animals, and sensitive species on the refuge; and,
- Protecting the integrity of federal-designated research and public use natural areas.

Eastern Neck refuge supports a wide diversity of habitats, with brackish tidal marshes, natural ponds and impoundments, upland forests, hedgerows, grasslands, and a variety of managed rotational croplands. In addition to the waterfowl and bald eagles mentioned in goal 1, these diverse habitats support a broad array of breeding and migrating songbirds as well as other native wildlife, including reptiles and invertebrates. Native snakes are relatively common on the refuge. Refuge grasslands provide a stopping over point for migrating monarch butterflies. Other species of breeding butterflies, dragonflies and damselflies are prevalent. An interesting array of beetles has been documented on the refuge as well. Chapter 3 describes wildlife documented on the refuge. Our challenge is to use our available resources as effectively as possible to deal with invasive plants and animals, optimize the mix of habitat types, and accommodate compatible wildlife-dependent public uses. Our goal is to manage these habitats to sustain a diversity of native species for the long term and to minimize invasive species.

GOAL 3:

Conduct effective outreach activities and develop and implement quality wildlife-dependent public use programs, with an emphasis on wildlife observation and photography, to raise public awareness of the refuge and the Refuge System, and promote enjoyment and stewardship of natural resources in the Chesapeake Bay region by:

- Enhancing and increasing effective public outreach activities to increase the visibility of the Service, the refuge, and the Refuge System and to garner increased appreciation and support for our conservation activities;
- Ensuring that visitors are satisfied with the safety, accessibility, and quality of opportunities to observe and photograph wildlife on the refuge;
- Providing opportunities for quality, recreational fishing and hunting;
- Providing opportunities for environmental education and interpretation that enhance refuge visitor's understanding of the significant natural resources in the Chesapeake Bay area, as well as the important role the refuge plays in its conservation; and
- Providing opportunities for the public to engage in refuge activities through a Friends Group, an organized volunteer program, and through partnerships with individuals, other agencies, universities, and other institutions, thereby promoting the mission, management and objectives of the refuge and the Refuge System.

Our desire is to be a recognized, welcomed, and valued part of the Eastern Shore community. Our concern is that we are not well known in the Kent County area. Raising the visibility of the Service, the Refuge System, and the refuge will encourage people to learn about the importance of refuge habitats and species of concern, and the refuge's role in conserving Bay resources. An effective outreach program will enhance support for our programs and allow us to proactively anticipate and deal with public issues if they arise.

Hunting, fishing, wildlife observation, wildlife photography, environmental education and interpretation are the six priority wildlife-dependent public uses identified in the Refuge Improvement Act. The Act stipulates those six uses are to receive enhanced consideration in refuge planning, but does not establish a hierarchy among those six uses. Opportunities to engage in them should be provided to the extent compatible with specific refuge goals and objectives. The ability to fund the management of these activities is also a factor for refuge managers to consider in determining their compatibility. Service policy requires that refuge managers set limits on, and establish stipulations for, any of those activities as warranted to ensure their compatibility. Each of these activities is already facilitated on current refuge lands.

Regional Context and Project Analysis Area

The regional context (map 1.3) for the CCP is the subwatersheds of northeastern Chesapeake Bay and the area defined by the Atlantic Coast Joint Venture as the Chester River and Kent County Bayshore focus area (http://www.acjv.org/wip/acjv_wip_midatlantic.pdf). The regional context encompasses the farmlands and riverine wetlands that support major waterfowl populations on the Upper Eastern Shore of Maryland. None of the other lands of the Refuge Complex occur in this focus area.

The project analysis area (map 1.4) includes the tidal marshes and uplands of Eastern Neck island over which the Service has direct management control and the mesohaline (brackish) portion of the Bay that includes waters north of Kent Island along the Upper Eastern Shore of Maryland including the waters at the mouth of the Chester River defined as the Lower Chester River Basin, that are of major significance to waterfowl and other Service trust resources.

The Service and the Refuge System Policies and Mandates Guiding Planning

The U.S. Fish and Wildlife Service and its Mission

The Service is part of the Department of the Interior. The Service's mission is

“Working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.”

Congress entrusts to the Service the conservation, protection and enhancement of these national natural resources: migratory birds, anadromous and interjurisdictional fish, Federal-listed endangered or threatened species, wetlands, certain marine mammals, and national wildlife refuges. The Service also operates national fish hatcheries, fisheries assistance field offices, and ecological services field offices. It also enforces federal wildlife laws and international treaties on importing and exporting wildlife, assists states with their fish and wildlife programs, and helps other countries develop conservation programs.

The Service manual, available online at <http://www.fws.gov/policy/manuals/>, contains the standing and continuing directives on fulfilling our responsibilities. The 600 series of the Service manual addresses land use management, and sections 601-609 specifically address management of national wildlife refuges.

The Service publishes special directives that affect the rights of citizens or the authorities of other agencies separately in the Code of Federal Regulations (CFR); the Service manual does not duplicate them (see 50 CFR 1–99 online at <http://www.gpoaccess.gov/cfr/index.html>).

Map 1.3. Eastern Neck Regional Context



Map 1.4. Eastern Neck Refuge Project Analysis Area





James Prince/USFWS

Wood duck

The National Wildlife Refuge System and its Mission and Policies

The Refuge System is the world's largest collection of lands and waters set aside specifically for the conservation of wildlife and the protection of ecosystems. More than 550 national wildlife refuges encompass over 150 million acres of lands and waters in all 50 states and several U.S. island territories. Each year, more than 40 million visitors hunt, fish, observe and photograph wildlife, or participate in environmental education and interpretation on refuges.

In 1997, President William Jefferson Clinton signed into law the Refuge Improvement Act. That act establishes a unifying mission for the Refuge System.

"The mission of the System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."—Refuge Improvement Act; Public Law 105-57

It also establishes a new process for determining the appropriateness and compatibility of public uses on refuges and requires us to prepare a CCP for each refuge. The Act states that the Refuge System must focus on wildlife conservation as its highest priority. It also states that the mission of the Refuge System, coupled with the purposes for which each refuge was established, will provide the principal management direction on that refuge.

The Refuge System Manual contains policy governing the operation and management of the Refuge System that the Service Manual does not cover, including technical information on implementing refuge policies and guidelines on enforcing laws. You can review that manual at refuge headquarters. We describe below a few noteworthy policies instrumental in developing this CCP. These policies can be accessed at: <http://www.fws.gov/refuges/policiesandbudget/refugepolicies.html>.

Policy on Refuge System Planning

This policy (602 FW 1, 2, and 3) establishes the requirements and guidance for Refuge System planning, including CCPs and step-down management plans. It states that we will manage all refuges in accordance with an approved CCP that, when implemented, will help

- Achieve refuge purposes;
- Fulfill the Refuge System mission;
- Maintain and, where appropriate, restore the ecological integrity of each refuge and the refuge system;
- Achieve the goals of the National Wilderness Preservation System and the National Wild and Scenic Rivers System; and,
- Conform to other Service mandates.

The planning policy provides guidance, systematic direction, minimum requirements for developing all CCPs, and provides a systematic decision-making process that fulfills those requirements. Among them, we are to review any existing special designation areas or the potential for such designations (e.g., wilderness and wild and scenic rivers); and, incorporate a summary of those reviews into each CCP (602 FW 3).

Policy on Maintaining Biological Integrity, Diversity, and Environmental Health

This policy provides guidance on maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge System, including the protection of a broad spectrum of fish, wildlife, and habitat resources in refuge ecosystems. It provides refuge managers with a process for evaluating the best management direction to prevent the additional degradation of environmental conditions and restore lost or severely degraded environmental components. It also provides guidelines for dealing with external threats to the biological integrity, diversity, and environmental health of a refuge and its ecosystem (601 FW 3).

Policy on Appropriateness of Refuge Uses

Federal law and Service policy provide the direction and planning framework for protecting the Refuge System from inappropriate, incompatible or harmful human activities and ensuring that visitors can enjoy its lands and waters. This policy (603 FW 1) provides a national framework for determining appropriate refuge uses in an effort to prevent or eliminate those uses that should not occur in the Refuge System. It describes the initial decision process the refuge manager follows when first considering whether or not to allow a proposed use on a refuge. An appropriate use must meet at least one of the following four conditions:

- 1) The use is a wildlife-dependent recreational use as identified in the Refuge Improvement Act.
- 2) The use contributes to fulfilling the refuge purpose(s), the Refuge System mission, and goals or objectives described in a refuge management plan approved after October 9, 1997, the date the Refuge Improvement Act was signed into law.
- 3) The use involves the take of fish and wildlife under State regulations.

- 4) The use has been found to be appropriate after concluding a specified findings process using 10 criteria.

Policy on Compatibility

This policy (603 FW 2) complements the appropriateness policy. The refuge manager must first find a use is appropriate before undertaking a compatibility review of that use. If the proposed use is not appropriate, the refuge manager will not allow the use and will not prepare a compatibility determination.

This policy includes a detailed description of the process and requirements for conducting compatibility reviews. Our summary follows:

- The Refuge Improvement Act and its regulations require an affirmative finding by the refuge manager on the compatibility of a public use before we allow it on a national wildlife refuge.
- A compatible use is one “that will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge.”
- The act defines six wildlife-dependent uses that are to receive our enhanced consideration on refuges: hunting, fishing, wildlife observation and photography, and environmental education and interpretation.
- The refuge manager may authorize those priority uses on a refuge when they are compatible and consistent with public safety.

Annual youth fishing derby



When the refuge manager publishes a compatibility determination, that determination will stipulate the required maximum reevaluation dates established in policy: 15 years for wildlife-dependent recreational uses; or, 10 years for other uses.

The refuge manager may reevaluate the compatibility of any use at any time, including prior to its mandatory reevaluation date identified on an approved determination. For example, this may occur if new information reveals unacceptable impacts or incompatibility with refuge purposes (602 FW 2.11, 2.12). The refuge manager may allow or deny any use, even one that was previously determined compatible, based on other considerations such as public safety, policy, or available funding.

Other Mandates

Although Service and Refuge System policy and the purpose(s) of each refuge provide the foundation for its management, other federal laws, executive orders, treaties, interstate compacts, and regulations on conserving and protecting natural and cultural resources also affect how we manage refuges. Our “Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service” describes many of them at <http://www.fws.gov/laws/Lawsdigest.html>.

Of particular note are Federal laws that require the Service to identify and preserve its important historic structures, archaeological sites, and artifacts. NEPA mandates our consideration of cultural resources in planning Federal actions. The Refuge Improvement Act requires the CCP for each refuge to identify its archaeological and cultural values. Following is a highlight of some cultural and historic resource protection laws which relate to the development of CCPs.

- The Archaeological Resources Protection Act (16 U.S.C. 470aa–470ll; Pub.L. 96–95) approved October 31, 1979, (93 Stat. 721), referred to as ARPA, largely supplanted the resource protection provisions of the Antiquities Act of 1906 for archaeological items. ARPA establishes detailed requirements for issuance of permits for any excavation for or removal of archaeological resources from federal or Native American lands. It also establishes civil and criminal penalties for the unauthorized excavation, removal, or damage of those resources; for any trafficking in those removed from federal or Native American land in violation of any provision of federal law; and for interstate and foreign commerce in such resources acquired, transported or received in violation of any state or local law.
- The Archeological and Historic Preservation Act (16 U.S.C. 469–469c; Pub.L. 86–523,) approved June 27, 1960, (74 Stat. 220) as amended by Pub.L. 93–291, approved May 24, 1974, (88 Stat. 174) carries out the policy established by the Historic Sites Act (see below). It directs federal agencies to notify the Secretary of the Interior whenever they find that a federal or federal-assisted licensed or permitted project may cause the loss or destruction of significant scientific, prehistoric or archaeological data. The Act authorizes the use of appropriated, donated or transferred funds for the recovery, protection and preservation of that data.
- The Historic Sites, Buildings and Antiquities Act (16 U.S.C. 461–462, 464–467; 49 Stat. 666) of August 21, 1935, popularly known as the Historic Sites Act, as amended by Pub.L. 89–249, approved October 9, 1965, (79 Stat. 971), declares it a national policy to preserve historic sites and objects of national significance, including those located on refuges. It provides procedures for designating, acquiring, administering and protecting them. Among other things, National Historic and Natural Landmarks are designated under the authority of this act.
- The National Historic Preservation Act of 1966 (16 U.S.C. 470–470b, 470c–470n), Pub.L. 89–665, approved October 15, 1966 (80 Stat. 915) and repeatedly amended, provides for the preservation of significant historical features (buildings, objects and sites) through a grant-in-aid program to the states. It establishes a National Register of Historic Places and a program of matching grants under the existing National Trust for Historic Preservation (16 U.S.C. 468–468d). This act establishes an Advisory Council on Historic Preservation, which became a permanent, independent agency in Pub.L. 94–422, approved September 28, 1976 (90 Stat. 1319). The act created the Historic Preservation Fund. It directs federal agencies to take into account the effects of their actions on items or sites listed or eligible for listing on the National Register.

The Service also has a mandate to care for museum properties it owns in the public trust. The most common are archaeological, zoological, botanical collections, historical photographs, historic objects, and art. Each refuge maintains an inventory of its museum property. Our museum property coordinator in Hadley, Massachusetts, guides refuges in caring for these properties, and helps us comply with the Native American Grave Protection and Repatriation Act and Federal regulations governing Federal archaeological collections. Our program ensures that those collections will remain available to the public for learning and research.

Other Federal resource laws are also important to highlight as they are integral to developing a CCP. The Wilderness Act of 1964 (16 U.S.C. 1131–1136; Pub. L. 88–577) establishes a National Wilderness Preservation System (NWPS) that is composed of Federal-owned areas designated by Congress as “Wilderness Areas.” The Act directs each agency administering designated wilderness to preserve the wilderness character of areas within the NWPS, and to administer the NWPS for the use and enjoyment of the American people in a way that will leave those areas unimpaired for future use and enjoyment as wilderness. The Act also directs the Secretary of the Interior, within 10 years, to review every roadless area of 5,000 acres or more and every roadless island (regardless of size) within National Wildlife Refuge and National Park systems for inclusion in the National Wilderness Preservation System. Service planning policy requires that we evaluate the potential for wilderness on refuge lands, as appropriate, during the CCP planning process.

The Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 et seq.; Pub. L. 90-542 as amended), selects certain rivers of the nation possessing remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, preserves them in a free-flowing condition, and protects their local environments. Service planning policy requires that we evaluate the potential for Wild and Scenic Rivers designation on refuge lands, as appropriate, during the CCP planning process.

Our mandates also include orders by the President, Secretary of Interior and/or Director of the U.S. Fish and Wildlife Service. We highlight two of those orders below.

- Presidential Executive Order 13508—Chesapeake Bay Protection and Restoration, was issued on May 12, 2009. This order furthers the purpose of the Clean Water Act of 1972, as amended (33 U.S.C. 1251 et seq.), and other laws “...to protect and restore the health, heritage, natural resources, and social and economic value of the Nation’s largest estuarine ecosystem and the natural sustainability of its watershed.” It recognizes the Chesapeake Bay as “a national treasure constituting the largest estuary in the United States and one of the largest and most biologically productive estuaries in the world.”
- It directs the establishment of a Federal Leadership Committee chaired by the Administrator of the Environmental Protection Agency, or their designee, with participation by all Federal agencies with jurisdiction in the Bay. The Committee’s purpose is to lead the effort to restore the health of the Chesapeake Bay under a renewed commitment to control pollution from all sources as well as protect and restore habitat and living resources, conserve lands, and improve management of natural resources, all of which contribute to improved water quality and ecosystem health.
- This order also develops a strategy for coordinated implementation of existing programs and projects, and an annual action plan and accomplishment reports. It also requires collaboration with state partners. The focus of the coordinated implementation plan will be to address: 1) water quality; 2) sources of pollution from agricultural lands and federal lands and facilities; 3) protecting the Bay’s resources as the climate changes; 4) expanding opportunities for public access; 5) conserving landscapes and ecosystems; and, 6) the monitoring and accountability of activities.
- Secretarial Order 3289 – Addressing the Impacts of Climate Change on America’s Water, Land, and Other Natural and Cultural Resources, was issued on September 14, 2009. This order establishes a Department-wide,

science-based approach to increasing our understanding of climate change and to coordinate an effective response to its impacts on tribes and on the land, water, ocean, fish and wildlife, and cultural heritage resources that the Department manages. The order establishes a “Climate Change Response Council” that will execute a coordinated Department-wide strategy to increase scientific understanding and the development of adaptive management tools to address the impact of climate change on our natural and cultural resources. The Council will help coordinate activities within and among federal agencies. Land management agencies are directed to pursue appropriate activities to reduce their carbon footprint, adapt water management strategies to address the possibility of a shrinking water supply, and protect and manage land in anticipation of sea level rise, shifting wildlife populations and habitats, increased wildland fire threats, and an increase in invasive and exotic species.

- Presidential Executive Order 13443 - Facilitation of Hunting Heritage and Wildlife Conservation was issued on August 16, 2007. The purpose of this order is to direct Federal agencies that have programs and activities affecting public land management, outdoor recreation, and wildlife management, including the Department of the Interior and the Department of Agriculture, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat. Federal agencies are directed to pursue certain activities listed in the Order, consistent with their missions. Those activities include managing wildlife and wildlife habitats on public lands in a manner that expands and enhances hunting opportunities, and working with state and tribal governments to manage wildlife and habitats to foster healthy and productive populations and provide appropriate opportunities for the public to hunt those species.

Conservation Plans and Initiatives Guiding the Project

Birds of Conservation Concern 2008 Report (USFWS 2008)

The Service developed this report (USFWS 2008) as an update to their 2002 report in consultation with the leaders of ongoing bird conservation initiatives and such partnerships as Partners in Flight (PIF), the North American Waterfowl Management Plan (NAWMP) and Joint Ventures, the North American Waterbird Conservation Plan (NAWCP), and the U.S. Shorebird Conservation Plan. It fulfills the mandate of the 1988 amendment to the Fish and Wildlife Conservation Act of 1980 (100 Pub. L. 100–653, Title VIII), requiring the Secretary of the Interior, through the Service, to “identify species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973.”

The overall goal of this report is to accurately identify the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent our highest conservation priorities.

The geographic scope of this endeavor is the entire U.S., including U.S. island territories in the Pacific and Caribbean. The report encompasses three distinct geographic scales: 1) National; 2) North American Bird Conservation Initiative (NABCI) Bird Conservation Regions (BCRs); and, 3) the eight Service Regions.

This report lists priority bird species of conservation concern at each scale which are primarily derived from assessment scores from three major bird conservation plans: 1) the Partners in Flight North American Landbird Conservation Plans; 2) the U.S. Shorebird Conservation Plan; and 3) the North American Waterbird

Conservation Plan. Bird species included on lists in the report include nongame birds, gamebirds without hunting seasons, subsistence-hunted nongame birds in Alaska, and Federal Endangered Species Act candidate, proposed endangered or threatened, and recently delisted species. Population trends, threats distribution, abundance and relative density were all factors considered.

This report is intended to stimulate coordinated and collaborative proactive conservation actions among Federal, State, Tribal, and private partners. It is hoped that by focusing attention on these highest-priority species, this report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby contributing to healthy avian populations and communities. You may access the report at: <http://www.fws.gov/migratorybirds/NewReportsPublications/SpecialTopics/BCC2008/BCC2008.pdf>. This is one of the plans we used in identifying species of concern in appendix A, and in developing management objectives and strategies under goals 1 and 2.

North American Waterfowl Management Plan (NAWMP; update 2004) and Joint Venture Plans

Originally written in 1986, the NAWMP describes a 15-year strategy for the United States, Canada, and Mexico to restore and sustain waterfowl populations by protecting, restoring and enhancing habitat. The plan committee, including representatives from all three countries has modified the 1986 plan twice to account for biological, sociological, and economic changes that influenced the status of waterfowl and to allow cooperative habitat conservation. The most recent modification in 2004 updates the latest needs, priorities, and strategies for the next 15 years, and guides partners in strengthening the biological foundation of North American waterfowl conservation and stakeholder confidence in the direction of the plan. You may access the report at: <http://www.fws.gov/birdhabitat/NAWMP/files/ImplementationFramework.pdf>.

To convey goals, priorities, and strategies more effectively, that 2004 modification comprises two separate documents: Strategic Guidance and Implementation Framework. The former is for agency administrators and policy-makers who set the direction and priorities for conservation. The latter includes supporting technical information for use by biologists and land managers.

The plans are implemented at the regional level in 14 habitat Joint Ventures and 3 species Joint Ventures (Arctic Goose, Black Duck, and Sea Duck). Eastern Neck refuge lies in the Atlantic Coast Joint Venture (ACJV), which includes all the Atlantic Flyway states from Maine to Florida and Puerto Rico. The ACJV Waterfowl Implementation Plan was completed in June 2005. The refuge lies within the plan's "Chester River and Kent County Bayshore" focus area. Map 1.1 shows the focus area, or you may view it online at <http://www.acjv.org/>.

The waterfowl goal for the ACJV is to... "Protect and manage priority wetland habitats for migration, wintering, and production of waterfowl, with special consideration to black ducks, and to benefit other wildlife in the joint venture area." The Black Duck Joint Venture plan also relates to our CCP. American black ducks use the refuge during the winter and migration, but are less common during their breeding season as their primary breeding grounds are in Canada. The Black Duck Joint Venture Final Draft Strategic Plan (USFWS/CWS 1993) resides online at <http://www.pwrc.usgs.gov/bdjv/>. We referred to both Joint Venture plans in developing the management objectives and strategies under goals 1 and 2.

Mid-Atlantic/Southern New England Bird Conservation Region (BCR-30) Implementation Plan (2007)

The New England/Mid-Atlantic Coast Bird Conservation Region (BCR 30) provides important resources for migratory birds whose ranges span the western hemisphere. Habitats associated with coastal ecosystems provide the highest habitat values and provide critical staging areas for migratory waterfowl, waterbirds, shorebirds, and landbirds. Coastal beaches and wetlands, followed by forested upland communities, are considered the most important

habitats in need of protection for migratory birds in the BCR. The Chesapeake and Delaware bays, as well as other major bays in the BCR, provide resources critical to many migrating birds as they journey from their breeding sites in the north to non-breeding sites in Mexico, Central America, the Caribbean and South America.

Unfortunately, the majority of the lands within BCR 30 have been altered from their historic condition. From Boston to Washington D.C., BCR 30 supports the highest density of humans on the U.S. East Coast. Much of the landscape in the BCR is dominated by urban development. Habitat loss and degradation (e.g. fragmentation, agriculture, and invasive species) are the greatest threats to bird populations in BCR 30. This plan identifies the bird species and habitats in greatest need of conservation action in this region, activities thought to be most useful to address those needs, and geographic areas believed to be the most important places for conservation work to occur. The plan (USFWS 2007b) establishes a regional bird conservation initiative with partners across BCR 30, communicating their conservation planning and implementation activities to deliver high priority conservation actions in a coordinated manner. *It can be accessed on-line at <http://www.acjv.org>.*

One major objective of this and other BCR plans is to “step-down” or integrate the goals of continental bird conservation plans. Within BCR 30, the respective Partners in Flight plans (see below), the U.S. Shorebird Conservation Plan (see below), the North American Waterbird Conservation Plan (see below) and the North American Waterfowl Management Plan are included. The BCR 30 Plan brings the common goals of these plans together into one document that can be used by state agencies, non-governmental organizations (NGOs), and other bird conservation interests to implement bird conservation activities in this region. The plan also merges material from other plans and technical workshops, including, but not limited to, the BCR 30- Partners In Flight (PIF) Mini Plan, BCR 30 Coordinated Monitoring Workshop, the Mid-Atlantic New England Maritimes Regional Waterbird Plan, the December 2004 BCR 30 All-Bird Conservation Workshop, and other materials. We referred to this plan as we developed management objectives and strategies under goals 1 and 2, and to create appendix A, “Species and Habitats of Conservation Concern.”

North American Waterbird Conservation Plan (Version 1, 2002)

This plan (Kushlan et al. 2002) is an independent partnership among individuals and institutions interested in, or responsible for, conserving water birds and their habitats. The plan is just one element of a multi-faceted conservation program. The primary goal of the plan is to ensure that the distribution, diversity, and abundance of populations and habitats of breeding, migratory, and non-breeding water birds are sustained or restored throughout the lands and waters of North America, Central America, and the Caribbean. It provides a framework for conserving and managing colonially nesting water-dependent birds. In addition, it facilitates continent-wide planning and monitoring, national, state, and provincial conservation, regional coordination, and local habitat protection and management. You can access the continental plan online at <http://www.pwrc.usgs.gov/nacwcp/nawcp.html>. We referred to this plan as we developed management objectives and strategies under goals 1 and 2, and to create appendix A, “Species and Habitats of Conservation Concern.”

Mid-Atlantic/New England/Maritimes (MANEM) Waterbird Conservation Plan (2008)

A partnership of organizations and individuals working to facilitate waterbird conservation in the Mid-Atlantic/New England/Maritimes (MANEM) region of the U.S and Canada has developed this regional waterbird conservation plan. Over 200 partners comprising the MANEM Waterbird Working Group compiled and interpreted technical information on the region’s waterbird populations and habitats, assessed conservation status of these natural resources, developed

strategies to ensure the persistence of sustainable waterbird populations in the region, and identified near term priorities. MANEM partners include wildlife managers, scientists, policy makers, educators, and other supporters.

The MANEM region consists of Bird Conservation Regions 14 (Atlantic Northern Forest) and 30 (New England/Mid-Atlantic Coast), and Pelagic Bird Conservation Regions 78 (Northeast US Continental Shelf) and 79 (Scotian Shelf). The MANEM Waterbird Conservation Plan is being implemented within the context and framework of the North American Waterbird Conservation Plan—a project of the Waterbird Conservation for the Americas Initiative (www.waterbirdconservation.org).

Seventy-four waterbird species use habitats in MANEM for breeding, migrating, and wintering. Avian families include loons, grebes, shearwaters, storm-petrels, boobies, pelicans, cormorants, herons, ibises, rails, gulls, terns, skuas, jaegers and alcids. Partners in 4 subregions of MANEM selected 43 focal species for immediate conservation action. In addition, 55 of MANEM's waterbirds are identified in state wildlife action plans as "Species of Greatest Conservation Need". You can access information on Mid-Atlantic/New England/Maritimes Regional planning online at <http://www.fws.gov/birds/waterbirds/MANEM/>. We referred to this plan as we developed management objectives and strategies under goals 1 and 2.

U.S. Shorebird (2001, 2nd ed.) and North Atlantic Regional Shorebird (2000) Plans

Concerns about shorebirds led to the creation of the U.S. Shorebird Conservation Plan in 2000. Brown, et al. published a second edition in May 2001. Developed under a partnership of individuals and organizations throughout the United States, the plan develops conservation goals for each U.S. region, identifies important habitat conservation and research needs, and proposes education and outreach programs to increase public awareness of shorebirds and of threats to them. You may read the U.S. Shorebird Plan online at <http://www.fws.gov/shorebirdplan/USShorebird/downloads/USShorebirdPlan2Ed.pdf>.

In the Northeast, the North Atlantic Regional Shorebird Plan was also drafted to step down the goals of the continental plan to smaller scales to identify priority species, species goals, habitats, and prioritize implementation projects. The North Atlantic Regional Shorebird Plan appears online at <http://www.fws.gov/shorebirdplan/RegionalShorebird/RegionalPlans.htm>. We used both plans in developing our objectives and strategies for goals 1 and 2.

National Bald Eagle Management Guidelines (2007)

In July 2007, the Service issued a final ruling to officially remove the bald eagle from the Federal list of endangered and threatened species due to successful recovery throughout its range in the lower 48 states. The bald eagle continues to be protected by the Bald and Golden Eagle Protection Act (Eagle Act) and the Migratory Bird Treaty Act (MBTA). The Service developed these National Bald Eagle Management Guidelines to advise landowners, land managers, and others who share public and private lands with bald eagles when and under what circumstances the protective provisions of the Eagle Act may apply to their activities. The guidelines are intended to help people minimize such impacts to bald eagles, particularly where they may constitute disturbance, which is prohibited by the Eagle Act. The guidelines are intended to: (1) publicize the provisions of the Eagle Act that protect bald eagles to reduce the possibility that people will violate the law, (2) advise landowners, land managers and the general public of the potential for various human activities to disturb bald eagles, and (3) encourage additional nonbinding land management practices that benefit bald eagles. The document is intended primarily as a tool for landowners and planners who seek information and recommendations regarding how to avoid disturbing

bald eagles. You can view these management guidelines at: <http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>. We referred to these guidelines as we developed management objectives and strategies for bald eagles under goal 1.

Chesapeake Bay Bald Eagle Recovery Plan (1982)

The successful recovery of the bald eagle was, in part, due to the implementation of regional bald eagle recovery plans. During development of this CCP, we referred to the Chesapeake Bay Recovery Plan for any management recommendations that are still relevant to ensuring the survival and productivity of bald eagles in the Chesapeake Bay area.

Partners-in-Flight Bird Conservation Plans

In 1990, Partners-in-Flight (PIF) began as a voluntary, international coalition of government agencies, conservation organizations, academic institutions, private industries, and citizens dedicated to reversing the population declines of bird species and “keeping common birds common.” The foundation of its long-term strategy is a series of scientifically based bird conservation plans using physiographic areas as planning units.

The goal of each PIF plan is to ensure the long-term maintenance of healthy populations of native birds, primarily non-game birds. The plan for each physiographic area ranks bird species according to their conservation priority, describes their desired habitat conditions, develops biological objectives, and recommends conservation measures. The priority ranking factors in habitat loss, population trends, and the vulnerability of a species and its habitats to regional and local threats.

Physiographic Area 44—Mid-Atlantic Coastal Plain (April 1999).

Our project area lies in Physiographic Area 44, the Mid-Atlantic Coastal Plain. We referred to this plan as we developed our management objectives and strategies under goals 1 and 2. The plan can be accessed at http://www.blm.gov/wildlife/pl_44sum.htm.

The plan includes objectives for the following habitat types and associated species of conservation concern on the refuge:

- Barrier and Bay Islands: piping plover, American black duck, Wilson’s plover, brown pelican, American oystercatcher, black skimmer, least tern, and gull-billed tern.
- Salt Marsh: salt marsh sharp-tailed sparrow, black rail, prairie warbler, Henslow’s sparrow, seaside sparrow, sedge wren, American black duck, and clapper rail.
- Forested Wetland: cerulean warbler, Swainson’s warbler, Kentucky warbler, Acadian flycatcher, yellow-throated vireo, prothonotary warbler, and Louisiana waterthrush.
- Mixed Upland Forest: cerulean warbler, wood thrush, Kentucky warbler, Acadian flycatcher, worm-eating warbler, eastern wood-pewee, and Louisiana waterthrush.
- Early Successional: prairie warbler, Bachman’s sparrow, Henslow’s sparrow, blue-winged warbler, upland sandpiper, and white-eyed vireo.
- Fresh/Brackish Emergent Wetland: American black duck, and king rail.

We used this plan to help develop objectives and strategies for goals 1 and 2, and to create appendix A, “Species and Habitats of Conservation Concern.”

A Management Plan for the Eastern Population of Tundra Swans (July 2007)

Tundra swan



Dave Herr/USFWS

Responsibility for preparing migratory bird flyway management plans lies with Flyway Councils, which are administrative bodies who represent state and provincial wildlife agencies in North America. The Flyway Councils work cooperatively with the Service, the Canadian Wildlife Service, and the Mexican government's wildlife agency (SEMARNAT). The Eastern Population (EP) of tundra swans has been managed under a joint, four flyway management plan first developed and implemented in 1982, with additions and updates occurring in 1988 and 1998. Since 1998, a number of research projects have highlighted some of the uncertainties identified in the 1998 plan. This 2007 plan, prepared by the Ad Hoc Eastern Population Tundra Swan Committee of the four Flyway Councils, incorporates new information, particularly related to the use and accuracy of mid-winter counts, and updates its recommendations for the long-term conservation of these swans. It can be accessed on-line at <http://www.mdwfa.org/flyway.html>.

The specific purpose of this plan is to identify population goals, establish guidelines and priorities for management actions, identify strategies and assign responsibilities, specify levels of public use and emphasize research needs to improve the management of EP swans. The primary management goal is to maintain an EP tundra swan population of 80,000 in the Atlantic and Mississippi Flyways. The plan discusses how the protection of breeding, staging, and wintering habitat is critical to this goal and to the long-term maintenance of EP tundra swans and the habitats they rely upon.

Eastern Neck refuge and the surrounding shallow water habitats contribute to this goal by providing important staging and wintering habitat for tundra swans. We consulted this plan and its recommended management actions as we developed an objective and strategies for tundra swan under goal 1.

A Management Plan for the Atlantic Population of Canada Geese (March 2008)

The Atlantic Flyway Council's Canada Goose Committee provides this update to the Atlantic Flyway Canada Goose Management Plan developed in 1989. The 1989 plan established population objectives and emphasized status assessments using wintering ground survey information. In 1996, in response to dramatic declines in the Atlantic Population (AP) Canada goose population and coupled with an increase in the resident Canada goose population, the Atlantic Flyway Council developed an action plan to address immediate survey and research needs that would help guide management to rebuild AP goose numbers. Management efforts since 1996 have been directed towards ensuring population growth, resulting in a significant turnaround. This 2008 plan provides management guidelines to promote continued growth of the AP goose population at sustained higher levels. It can be accessed on-line at <http://www.mdwfa.org/flyway.html>.

The overall management goal in this plan is to maintain the AP Canada goose population and their habitats at a level that provides optimum opportunities for people to hunt, view, and otherwise enjoy geese on a sustainable basis. The population objective believed necessary to achieve this goal is to maintain an index of 250,000 breeding pairs of AP Canada geese in the Ungava region of Québec, Canada.

One of the long-term strategies for maintaining this population is the conservation of important breeding, staging, and wintering habitats. Eastern Neck Refuge provides staging and wintering habitat for thousands of geese each year. We referred to this plan as we developed management objectives and strategies under goal 1.

Atlantic Flyway Mute Swan Management Plan (July 2003)

The Atlantic Flyway Council's Snow Goose, Brant and Swan Committee prepared this plan in response to the exponential growth of the invasive, exotic mute swan population in the flyway that was occurring between 1986 and 2002, especially in Maryland and Virginia where the populations were doubling every 12 years. Mute swans are a Eurasian species, not native to North America. They are highly invasive of wetland habitats, impact native species of fish and wildlife, damage commercial agricultural crops, and pose a threat to human health and safety. Because of their consumption of large quantities of submerged aquatic vegetation (SAV) and aggressive behavior, they compete directly with many other native waterbirds and fisheries for limited resources in critical habitats.

The goal of this management plan is to "reduce the mute swan populations in the Atlantic flyway to levels that will minimize negative ecological impacts to wetland habitats and native migratory waterfowl and to prevent further range expansion into unoccupied areas." This plan lists five specific management objectives and numerous associated strategies to achieve this goal. It can be accessed on-line at <http://www.mdwfa.org/flyway.html>.

We referred to this plan, as well as the Chesapeake Bay Program's mute swan plan (see below) and the Maryland Department of Natural Resources (MD DNR) mute swan plan (also below), as we developed management objectives and strategies for dealing with this invasive species under goals 1 and 2. We discuss in chapter 4, under "General Refuge Management", our intent to continue working closely with MD DNR in controlling this species.

Mute Swan in the Chesapeake Bay: A Bay-wide Management Plan (June 2004)

This plan (USFWS 2004a) was prepared by the Chesapeake Bay Program's Mute Swan Working Group. We describe the successful partnership that is the foundation of the Chesapeake Bay Program below. Mute swans were identified as one of the highest concerns among the partners in the program when asked which species are causing, or have the highest potential to cause, adverse ecological effects in the Bay's ecosystem. In response to this elevated concern, a working group of researchers, and federal and state natural resource managers was formed to develop a Bay-wide regional mute swan management plan.

The goal of the plan is to manage the Chesapeake Bay population of mute swans to a level that a) minimizes the impacts on native wildlife, important habitats, and local economies; b) minimizes conflict with humans; c) is in agreement with the Chesapeake Bay Program's Chesapeake 2000 Agreement goals for SAV and invasive species; and, d) is in agreement with the Atlantic Flyway Mute Swan Management Plan. The plan identifies management objectives and strategies that will work to meet this goal. It can be accessed on-line at <http://www.mdwfa.org/flyway.html>.

We consulted this plan, as well as the other mute swan plans identified below, as we considered management actions to control mute swan. We describe those in chapter 4, under "General Refuge Management." Our intent is to continue working closely with MD DNR to control this species.

**Atlantic Flyway
Resident Canada Goose
Management Plan
(July 1999)**

This plan was cooperatively written by the State, Provincial, and Federal agencies responsible for managing local-nesting or “resident” Canada geese in the Atlantic Flyway. It does not prescribe specific regulations or dictate management policies or programs, but identifies an overall management goal and five management objectives developed by all the cooperators. The concern with resident Canada geese is that their numbers began to escalate in the 1980s and biologists became concerned that their numbers might be masking a decline in the number of migratory AP Canada geese. This concern was coupled with the recognition that the resident geese were contributing significantly to sport harvests, and human/goose conflicts in urban and suburban areas. Banding studies have confirmed that these resident geese are a distinct population from the migratory AP Canada geese with very different management needs and opportunities.

We consulted this plan as we considered alternative management actions to benefit waterfowl under goal 1 objectives. Our intent is to continue working closely with MD DNR in managing this species. The plan can be accessed at <http://www.mdwfa.org/flyway.html>.

**Partners in Amphibian
and Reptile Conservation,
National—State
Agency Herpetological
Conservation Report
(Draft 2004)**

Partners in Amphibian and Reptile Conservation (PARC) was created in response to the increasing, well-documented national declines in amphibian and reptile populations. PARC members come from state and federal agencies, conservation organizations, museums, the pet trade industry, nature centers, zoos, utility industries, universities, herpetological organizations, research laboratories, forest industries and environmental consultants. Its five geographic regions—Northeast, Southeast, Midwest, Southwest and Northwest—focus on national and regional herpetofaunal conservation challenges. Regional working groups allow for region-specific communication.

The National State Agency Herpetological Conservation Report (NHCR), a summary report sponsored by PARC, provides a general overview of each state wildlife agency’s support for reptile and amphibian conservation and research through September 2004. Each state report was compiled in cooperation with its agency’s lead biologist on herpetofaunal conservation. The purpose is to facilitate communication among state agencies and partner organizations throughout the PARC network to identify and address regional and national herpetological priorities.

PARC intends to expand the scope of the NHCR to include other states, provinces, and territories. It will also include other state agencies that are supporting herpetofaunal conservation and research, such as transportation departments, park departments, and forest agencies. The U.S. Geological Survey (USGS) is supporting the Northeastern Partners in Amphibian and Reptile Conservation Home Page as part of its contribution to PARC. It is being served by the Patuxent Wildlife Research Center, part of the USGS Eastern Region (<http://www.pwrc.usgs.gov/partners/>). The next NHCR will also integrate the list of species of conservation concern into each state’s comprehensive wildlife conservation strategy (see below). We referred to the latest draft NHCR plan in developing management objectives and strategies for goals 1 and 2, and in developing appendix A, “Species and Habitats of Conservation Concern.”

**U.S. Fish & Wildlife
Service Fisheries Program,
Northeast Region
Strategic Plan 2009–2013
(January 2009)**

The Service’s Fisheries Program’s primary mission is to work with others to maintain self-sustaining, healthy populations of coastal and anadromous fish, fish species that cross state or national boundaries, and endangered aquatic animals and their habitats. In the Northeast Region, 25 fishery management offices and national fish hatcheries work with states and other partners to

restore and protect a variety of fish and other aquatic species. Examples include Atlantic salmon (*Salmo salar*), striped bass (*Morone saxatilis*), American shad (*Alosa sapidissima*), river herring (*Alosa pseudoharengus*, *Alosa aestivalis*), Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), horseshoe crab (*Limulus polyphemus*), American eel (*Anguilla rostrata*), and menhaden (*Brevoortia tyrannus*).

The Fisheries Program has played a vital role in conserving and managing fish and other aquatic resources since 1871. Today, the Fisheries Program is a critical partner with states, Tribes, other governments, other Service programs, private organizations, public institutions, and interested citizens in a larger effort to conserve these important resources. In 2002, working with its many partners in aquatic conservation through the Sport Fishing and Boating Partnership Council's Fisheries Steering Committee, the Service completed its Strategic Vision (Vision) document: "Conserving America's Fisheries, U.S. Fish and Wildlife Service Fisheries Program Vision for the Future." That vision document includes goals, objectives, and action items on a national programmatic scale.

- The Fisheries Program is committed to working with partners to
- Protect the health of aquatic habitats;
- Restore fish and other aquatic resources; and
- Provide opportunities to enjoy the many benefits of healthy aquatic resources.

The Regional Fisheries Program Strategic Plan is an extension of the vision, describing more specifically the tactics to be implemented by the Northeast Region to fulfill the goals and objectives identified in the vision. The first plan covered years 2004 to 2008. The current plan can be viewed at <http://www.fws.gov/northeast/fisheries/>.

This plan brings together changing national direction, institutional knowledge, analysis of spatial information, and the perspectives of our state and tribal partners to develop a strategic plan that allows this regional program to prioritize its efforts during challenging times, while promoting positive change into the future. As the plan is implemented it will be built on a strong foundation of active partnerships and past accomplishments, while recognizing that continued communication, cooperation and expansion of partnerships is essential for successful implementation of this plan and fulfillment of the Program's resource responsibilities and obligations. This plan was built off the lessons learned from implementing the 2004-2008 strategic plan.

One step-down effort resulting from the plan is the identification and ranking of fish and other aquatic species as to their level of conservation concern by hydrologic unit. We used this ranking and have consulted with the Regional Fisheries Program staff in developing aquatic objectives and strategies under goals 1 and 2, and in creating appendix A, "Species and Habitats of Conservation Concern."

Maryland Department of Natural Resources, Wildlife Diversity Conservation Plan (MD DNR 2005)

In 2002, Congress created the State Wildlife Grant (SWG) Program, and appropriated \$80 million in state grants. The purpose of the program is to help State and Tribal fish and wildlife agencies conserve fish and wildlife species of greatest conservation need. The funds appropriated under the program are allocated to states according to a formula that takes into account their size and population.

To be eligible for additional federal grants and satisfy the requirements for participating in the SWG program, each state and U.S. territory was to develop a statewide “Comprehensive Wildlife Conservation Strategy” and submit it to the National Advisory Acceptance Team by October 1, 2005. Each plan was to address eight required elements, identify and focus on “species of greatest conservation need,” yet address the “full array of wildlife” and wildlife-related issues, and “keep common species common.”

The MD DNR called their plan a “Wildlife Diversity Conservation Plan” (WDCP). The goal of the plan is to create a vision for conserving that state’s wildlife and stimulate other states, federal agencies, and conservation partners to think strategically about their individual and coordinated roles in prioritizing conservation.

In addressing the eight elements below, the WDCP supplements and validates the information we obtained from other plans, and helped us identify conservation threats and management strategies for species and habitats of conservation concern on the refuge. The expertise that convened to compile this plan, and the partner and public involvement, further enhances its benefits for us. We used it in developing objectives and strategies for goals 1 and 2, and in developing appendix A, “Species and Habitats of Conservation Concern.”

The eight elements that the plan is designed to address are:

- 1) Information on the distribution and abundance of species of wildlife, including low and declining populations, as the state fish and wildlife agency deems appropriate, that are indicative of the diversity and health of the state’s wildlife;
- 2) Descriptions of locations and relative condition of key habitats and community types essential to the conservation of species identified in element 1;
- 3) Descriptions of problems that may adversely affect species identified in element 1 or their habitats, and priority research and survey efforts needed to identify factors that may assist in restoration and improved conservation of these species and habitats;
- 4) Descriptions of conservation actions necessary to conserve the identified species and habitats and priorities for implementing such actions;
- 5) Plans proposed for monitoring species identified in element 1 and their habitats, for monitoring the effectiveness of the conservation actions proposed in element 4, and for adapting those conservation actions to respond appropriately to new information or changing conditions;
- 6) Description of procedures to review the plan at intervals not to exceed 10 years;
- 7) Plans for coordinating, to the extent feasible, the development, implementation, review, and revision of the plan strategy with federal, state, and local agencies and Native American tribes that manage significant areas of land and water within the state, or administer programs that significantly affect the conservation of identified species and habitats; and,
- 8) Plans for involving the public in the development and implementation of plan strategies.

This plan can be accessed online at http://www.dnr.state.md.us/wildlife/divplan_wdcp.asp.

Other Regional Information Sources

We also consulted the plans and resources below as we refined our management objectives and strategies, especially those with a local context.

Chesapeake Bay Program. The Chesapeake Bay Program is a unique regional partnership directing and conducting the restoration of the Bay since the signing of the historic 1983 Chesapeake Bay Agreement. The Chesapeake Bay Program partners include the states of Maryland, Pennsylvania and Virginia; the District of Columbia; the Chesapeake Bay Commission, a tri-state legislative body; the U.S. Environmental Protection Agency, representing the federal government; and participating advisory groups. Since its inception in 1983, the Bay Program's highest priority has been the restoration of the Bay's living resources, including finfish, shellfish, Bay grasses including SAV, and other aquatic life and wildlife. Improvements include fisheries and habitat restoration, recovery of Bay grasses, nutrient and toxic reductions, and significant advances in estuarine science. The Program is responsible for many valuable reports and publications on Bay resources and is an important source of information for us. Many of these publications can be found on-line at <http://www.chesapeakebay.net/bayresourcelibrary.aspx?menuitem=13998>.

In 2000, the partnership decided to reaffirm its commitment and update its vision and goals. The result is the "Chesapeake 2000 Agreement." Five goals were established under the themes "Living Resources Protection and Restoration;" "Vital Habitat Protection and Restoration;" Water Quality Protection and Restoration;" "Sound Land Use;" and, "Stewardship and Community Engagement." We reviewed this plan's goals and recommended management actions as they relate to all our CCP goals, objectives and strategies.

In April 2007, the Program released its *Chesapeake Bay 2006 Health and Restoration Assessment*. The report gives watershed residents a clear and concise synopsis of Bay health and on-the-ground restoration efforts taking place across its vast watershed (http://www.chesapeakebay.net/content/publications/cbp_26038.pdf). The report is divided into two parts: Ecosystem Health and Restoration Efforts. This format of reporting, first used to detail the condition of the Bay in 2005, allows the Bay Program partnership to look at the effectiveness of clean-up actions across the entire watershed and allocate restoration efforts appropriately.

Maryland Department of Natural Resources (MD DNR). We have consulted with MD DNR staff and many of their publications in developing our plan. In addition to their state WDCP, their publication "Mute Swans in Maryland: A Statewide Management Plan" (April 14, 2003) was instrumental in developing our strategies to address invasive mute swans. We are a committed partner with MD DNR in controlling mute swans and fully subscribe to the recommendations they made in this plan. This plan can be accessed on line at <http://www.dnr.state.md.us/wildlife/finalmsplan.pdf>

Chester River Association (CRA). This group is an advocate for the health of the Chester River and the living resources it supports. CRA strives to promote stewardship of the Chester River, including its forests, marshes, fields, creeks, and streams. The group also strives to develop an understanding and appreciation of the river's place in the economic and cultural landscape of the area. CRA was founded in 1986 and established its Chester Riverkeeper program in 2002. Through meetings, forums, field trips, publications, habitat restoration projects, the Chester Testers and collaboration with community

groups and government agencies, CRA strives to improve water quality and increase public awareness of river and watershed issues. Our interests in water quality improvement in the Lower Chester River Basin include working with non-governmental organizations like the CRA.

Kent County Comprehensive Plan, May 2006. This comprehensive plan is the statement of development policy for Kent County by the County Commissioners. The Plan presents a series of goals and strategies to guide the preparation of County regulations and the application of County programs. These goals and policies are organized in eight functional categories dealing with the economy, towns and villages, the countryside, the environment, housing, transportation, community facilities and public services, and historic and cultural preservation. Each section contains a summary of important issues and trends. We referred to the land use data in this plan as we evaluated the socioeconomic impacts of implementing the CCP. These impacts were described and evaluated in the draft CCP/EA.



Jonathan Priddy/USFWS

Bayscape Garden on the Refuge